

Work Order ID 92946-2

November-12-12 1:35:03 PM

SPLIT-2.
change hubcap to
RD 4397

92946

Page 1

Item ID: D4634-1

Accept

N9000040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Fwd. Center Ceiling Panel

Start Date: 12/11/2012 Start Qty: 2.00

2

Cust Item ID:

Required Date: 12/12/2012 Req'd Qty: 2.00

2

Customer:

Reference:

Run Start

NR1

Approvals: Process Plan: MJS

Date: 12-11-12 Tooling:

Date:

Stop

NR2

QC:

Date:

SPC (Y/N):

Date:

Work Center ID:

Draw Nbr

Revision Nbr

D4634

AB DL 13/07/22

0.00

100

100

HAND FINISHING THERMOFORMING

0.00

Thermoform

Memo

Thermoforming Machine

Cut Blanks

x2
x1 DL 12/12/04 12/12/04

0.00

105

105

Dry Material

0.00

HandThermo

Memo

Hand Finishing Thermoforming

Dry Sheet as per QSI022 KYDEX

Temp: 1500 F

Time IN: 7:00 pm

Time OUT: 7:00 am

12/12/03
12/12/04

x3

Work Order ID 92946

November-12-12 1:35:03 PM

92946

Page 2

Item ID: D4634-1

Accept

N9000040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Fwd. Center Ceiling Panel

Start Date: 12/11/2012 Start Qty: 2.00

2

Cust Item ID:

Required Date: 12/12/2012 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID

Operation

Set Up/
Run Hours

Pool ID Tool # Plan Code Accept Qty Reject Qty Reject Number Insp. Stamp

Work Center ID

Description

110

0.00

110

THERMOFORMING MACHINE

Thermoform

Memo

0.00

Thermoforming Machine

Thermoform as per Dwg. D4634-1 and Folio FTA144

Dwg. Rev. A

Folio Rev. A

Visually inspect for proper formation and texture

130

0.00

130

HAND FINISHING THERMOFORMING

Thermoform

Memo

0.00

Thermoforming Machine

Trim to Finished Dimensions

140

0.00

140

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

D4634-1
09
P10 →

1

1 13/03/19

Work Order ID 92946

Thursday, March 14, 2013 10:50:28 AM

92946

Page 3

Item ID: D4634-1

Accept

N9000040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Fwd, Center Ceiling Panel

Start Date: 11/12/2012 Start Qty: 2.00

2

Cust Item ID:

Required Date: 12/12/2012 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan Code Accept Qty Reject Qty Reject Number Insp. Stamp

150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.00

Quality Control

160

Packaging

0.00

160

Packaging

Memo

0.00

Packaging

170

QC21- Final Inspection - Work Order Release

0.00

170

QC

Memo

0.00

Quality Control

DAS 16 3-8-19

location

B

MED TAB

13/03/25

13/3/27
Mr. 3-27

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Skid-tube <input type="checkbox"/></td> <td style="width: 25%;">Crosstube <input type="checkbox"/></td> <td style="width: 25%;">Water Jet <input type="checkbox"/></td> <td style="width: 25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabelled
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized
		<input type="checkbox"/> Over/Under tolerance
		<input type="checkbox"/> Part Incorrect
		<input type="checkbox"/> Part Lost/Missing
		<input type="checkbox"/> Part Moved
		<input type="checkbox"/> Positioned Wrong
		<input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced
		<input type="checkbox"/> Temperature/Cure
		<input type="checkbox"/> Weld
		<input type="checkbox"/> Wrong Stock Pulled
		<input type="checkbox"/> Other

Packlist Print

November-12-12 1:35:06 PM

Page 1

Work Order ID: 92946

92946

Parent Item: D4634-1

D4634-1

Parent Item Name: Fwd. Center Ceiling Panel

Start Date: 12/11/2012

Required Date: 12/12/2012

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev.A New Issue 12/05/07 DL

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MKYD6185S.080-P3-62015		Purchased	No			100	sf	1,028.362	12.93	28.73333			

Sh 12-12-04

MKYD6185S 080-P3-62015

**

6185 KYDEX .080"

Location

Loc Seq

Loc Code

therm

1028.362377

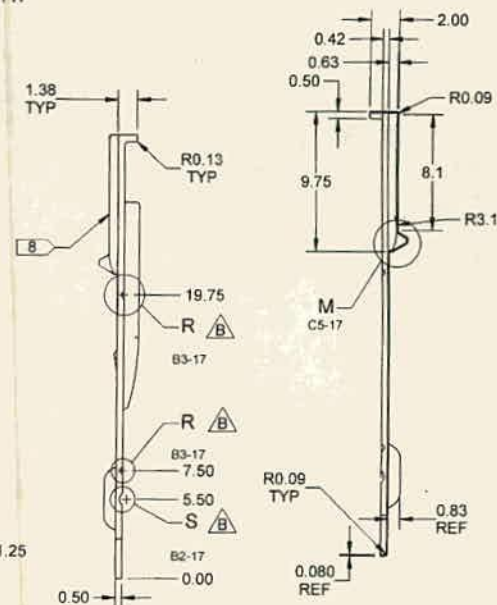
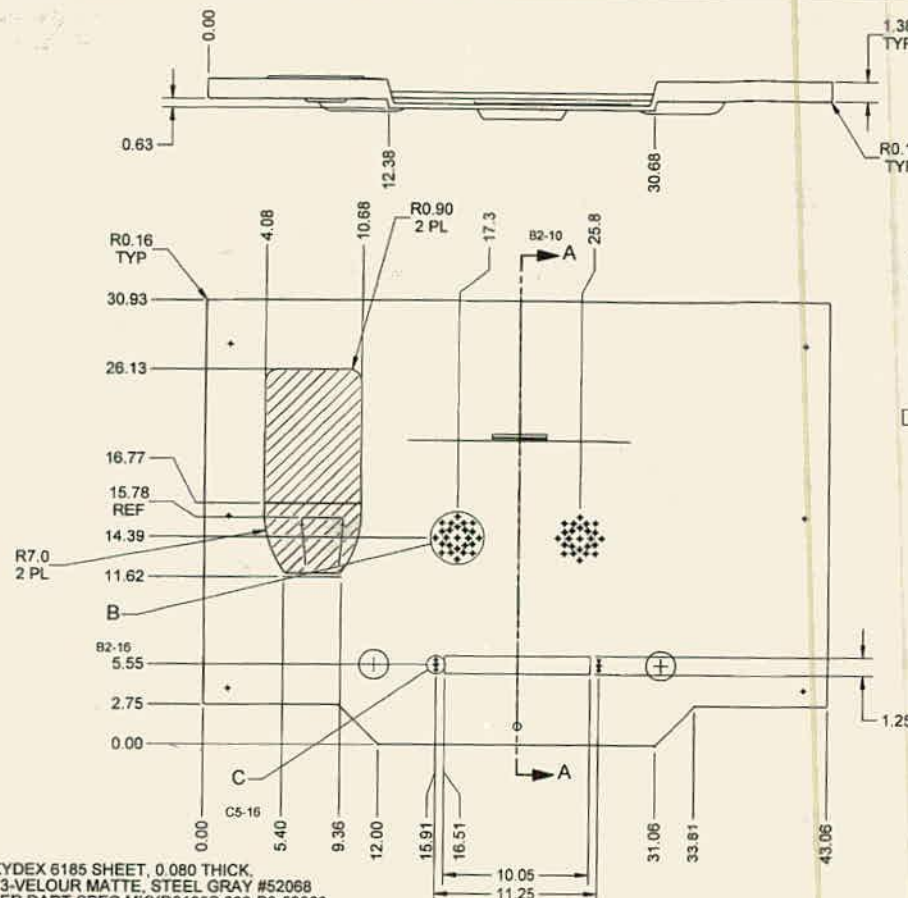
116576

14.148377

121755

1014.214

43.1 sq ft.



SECTION A-A C6-10

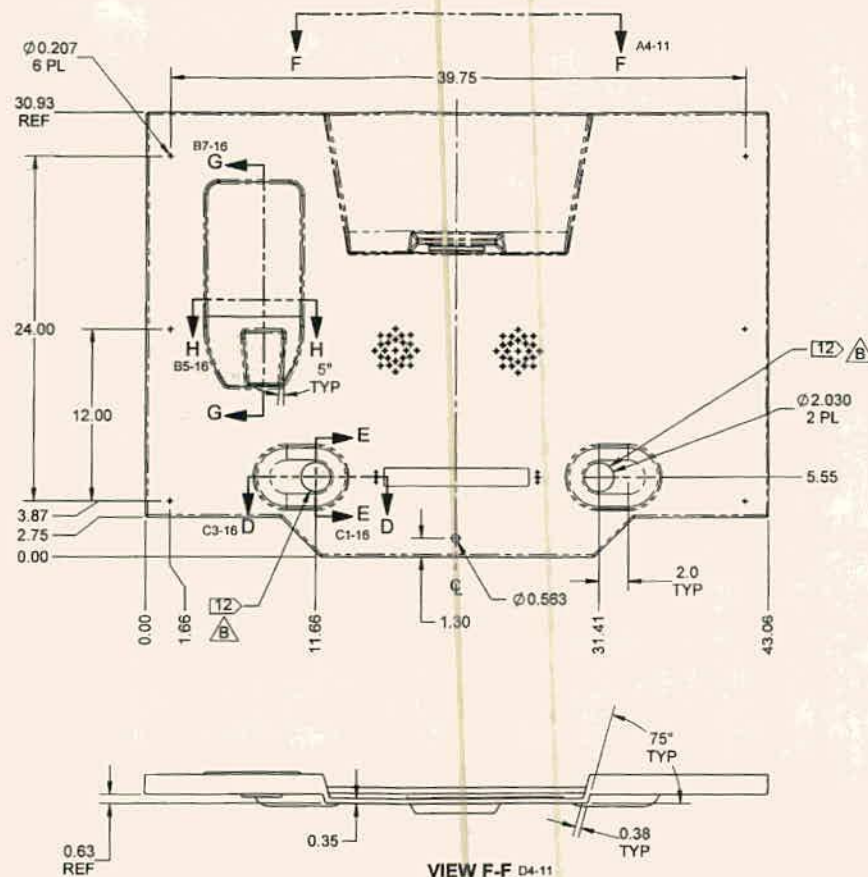
NOTES:

- 1) MATERIAL: KYDEX 6185 SHEET, 0.080 THICK, P3-VELOUR MATTE, STEEL GRAY #52068 PER DART SPEC MKYD6185S.080-P3-52068
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 5.59 lbs
- 8) TEXTURE ON THIS SIDE
- 9) 0.14 RADIUS NOT SHOWN FOR CLARITY
- 10) DRILL & TRIM D4634-1 PER TOOL DT9836
- 11) THERMOFORM PER QSI 022 USING DT9844 TOOL
MIN. THICKNESS AFTER FORMING:
SHADED AREA = 0.020
EDGES = 0.080
ELSEWHERE = 0.070
- 12) LOCATE $\varnothing 2.030$ AT CENTER OF PROTRUDED SURFACE AS SHOWN

D4634-1 FWD. CENTER CEILING PANEL

RELEASED
2013-01-30

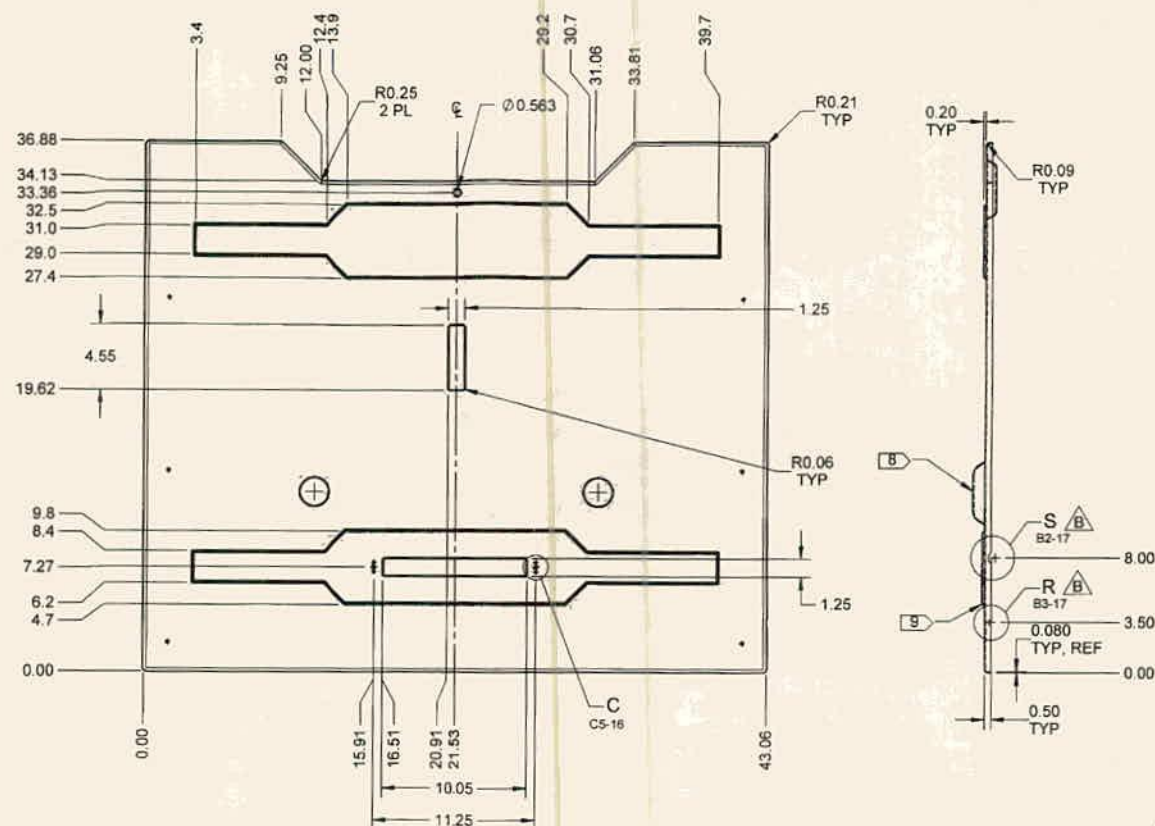
DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4634	SHEET 10 OF 17
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CENTER CEILING PANELS	NTS
DATE	12.11.30	COPYRIGHT © 2012 BY DART AEROSPACE LTD	
THIS DOCUMENT IS UNCLASSIFIED AND IS RELEASED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			



D4634-1 FWD. CENTER CEILING PANEL
AUXILIARY VIEW

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4634	SHEET 11 OF 17
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CENTER CEILING PANELS	NTS
DATE	12.11.30	COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PROPRIETARY AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

RELEASED
2013-01-30
[Signature]



NOTES:

1) MATERIAL: KYDEX 6185 SHEET, 0.080 THICK,
P3-VELOUR MATTE, STEEL GRAY #52068
PER DART SPEC MKYD6185S.080-P3-52068

2) FINISH: N/A

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: N/A

7) WEIGHT: 6.31 lbs

8) TEXTURE ON THIS SIDE

9) 0.14 RADIUS NOT SHOWN FOR CLARITY

10) DRILL & TRIM D4634-3 PER TOOL DT9837

11) THERMOFORM PER QSI 022 USING DT9845 TOOL

MIN. THICKNESS AFTER FORMING:

EDGES = 0.060

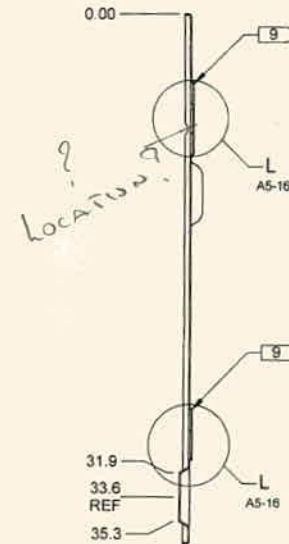
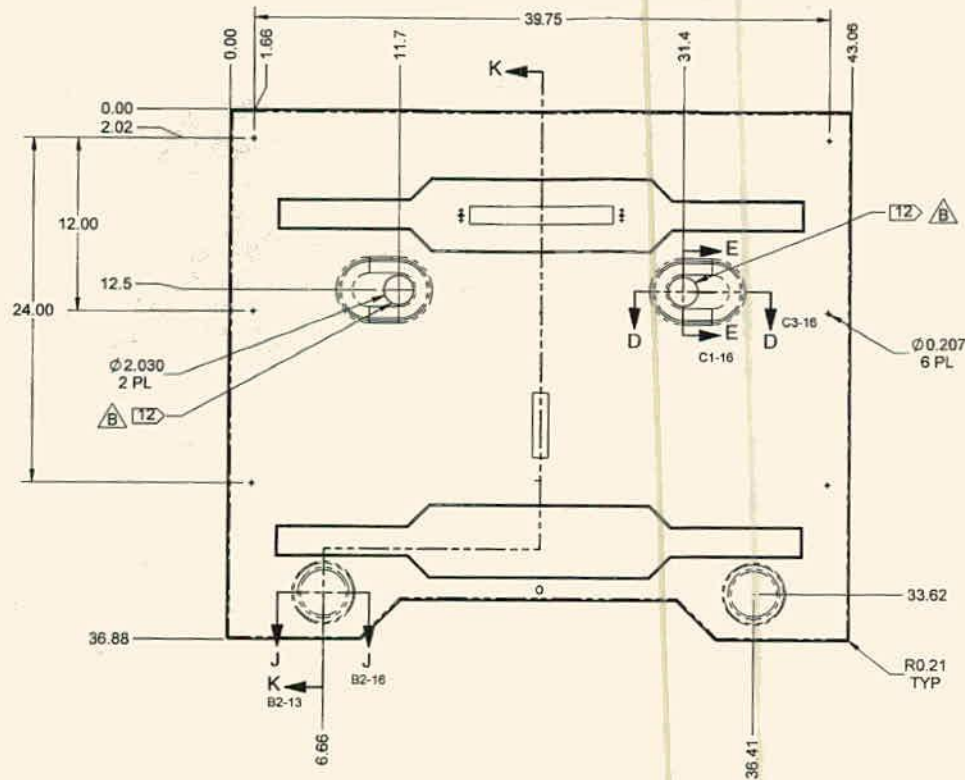
ELSEWHERE = 0.070

12) LOCATE $\varnothing 2.030$ AT CENTER OF PROTRUDED SURFACE AS SHOWN

D4634-3 MIDDLE, CENTER CEILING PANEL

RELEASED
2013-01-30

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4634	SHEET 12 OF 17
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CENTER CEILING PANELS	NTS
DATE	12.11.30	COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL. USE IS LIMITED TO THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIES OR TRANSMITTED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



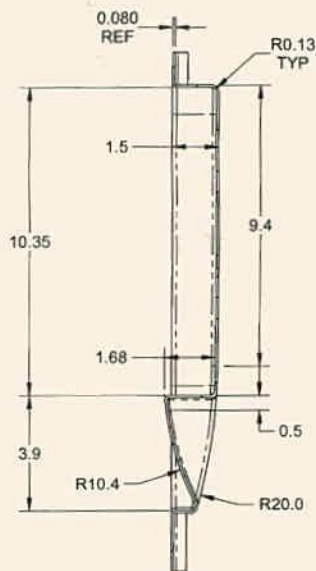
D4634-3 MIDDLE, CENTER CEILING PANEL
AUXILIARY VIEW

SECTION K-K 86-13

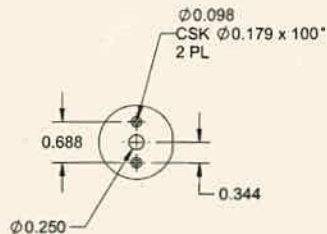
RELEASED
2013-01-30
np

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4634	SHEET 13 OF 17
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CENTER CEILING PANELS	NTS
DATE	12.11.30	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

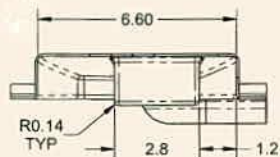
8 7 6 5 4 3 2 1



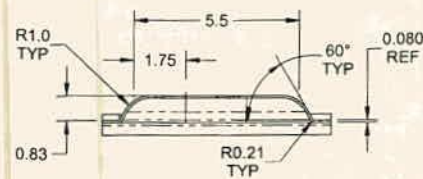
SECTION G-G C5-11
SCALE 4X



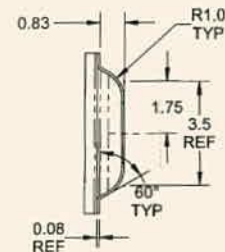
DETAIL C B7-10
SCALE 4X B4-12
B4-14



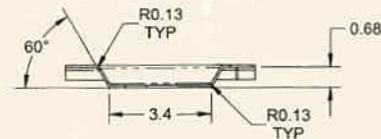
SECTION H-H C5-11
SCALE 2X



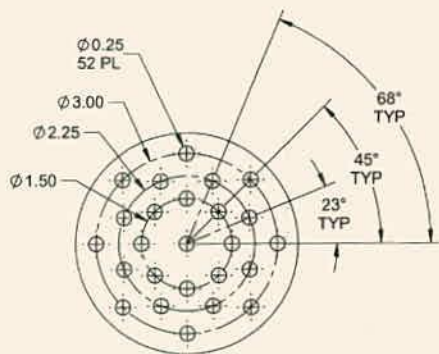
SECTION D-D B6-11
SCALE 2X C4-13
C4-15



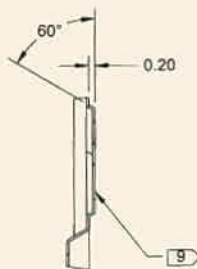
SECTION E-E B5-11
SCALE 4X C4-13
C5-15



SECTION J-J B6-13
SCALE 2X



DETAIL B B7-10
SCALE 4X
2 PL

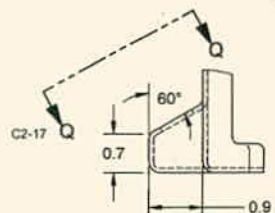


DETAIL I B2-13
SCALE 4X C2-13
TYP B2-14
C2-14

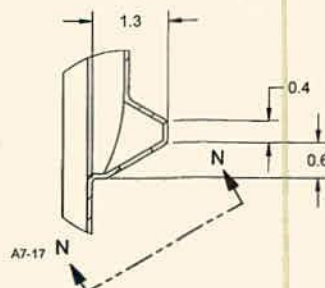
RECEIVED
2013-01-30
MD

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4634	SHEET 16 OF 17
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CENTER CEILING PANELS	NTS
DATE	12.11.30	COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

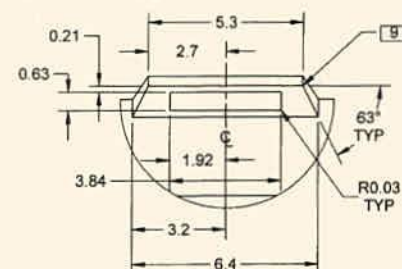
8 7 6 5 4 3 2 1



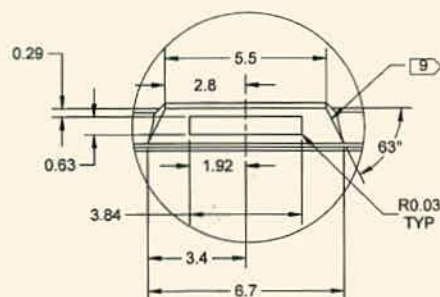
DETAIL P B3-14
SCALE 2X



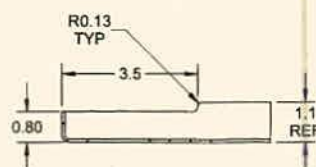
DETAIL M C3-10
SCALE 2X



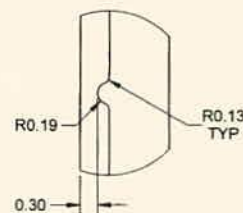
DETAIL Q B4-15
SCALE 0.5X



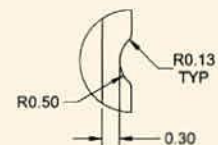
DETAIL N C5-17
SCALE 0.5X



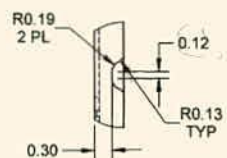
SECTION O-O B6-14
SCALE 1.3X



DETAIL R B3-10
SCALE 4X



DETAIL S B3-10
SCALE 4X



DETAIL T C2-14
SCALE 4X

RELEASED
2013-01-30

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	RF	DRAWING NO. D4634	REV. B
MFG. APPR.	RF	TITLE CENTER CEILING PANELS	SHEET 17 OF 17
APPROVED	RF	SCALE	NTS
DE APPR.	RF	COPYRIGHT © 2012 BY DART AEROSPACE LTD	
DATE	12.11.30	THIS DOCUMENT IS PRINTED AND SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

DART AEROSPACE LTD		Work Order: 92946
Description: D139 FWD CENTER CEILING PANEL		Part Number: D4634-1
Inspection Dwg: 4634	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST
THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than "	✓			
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

Measured by: JB	Date: 13/03/19
-----------------	----------------

TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
30.93		30.93				TH-05
43.06		43.06				TH-05
26.56 26.13		26.15				TH-05
4.08		4.06				TH-05
10.68		10.685				TH-05
8.87 11.62		9.06 11.81				TH-05
14.39		14.39				TH-05
17.3		17.310				TH-05
25.8		25.8				TH-05
.25		.251				DL-02
5.55		5.59				
1.25		1.21				

Measured by: JB	Date: 13/03/09
Audited by: 13/03/09	Date:
Preliminary Approval:	Date:

Rev	Date	Change	Revised by	Approved
B	10.04.14	Added preliminary approval	KJ	

10.04.14

DART AEROSPACE LTD		Work Order: 92946
Description: D139 FWD CENTER CEILING PANEL		Part Number: D4634-1
Inspection Dwg: 4634	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST
THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than "				
Shape Definition				
Texture Retention				
Material imperfections such as bumps, cracks, voids, scratching				

Measured by:	Date:
--------------	-------

TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
16.51		16.52			TH 05	
10.05		10.0			TH 09	
11.25		11.27			TH 09	
.50		.539			DL 02	
1.38		1.41			DL 02	
.50		.55			DL 02	
19.75		19.75			TH 05	
7.50		7.50			TH 05	
5.50		5.47			TH 05	
12.38		12.35 12.39			TH 05	
30.68		30.67			TH 05	
9.75		9.75			TH 05	

Measured by: JB	Date: 13.03/09
-----------------	----------------

Audited by: 813/03/09	Date:
-----------------------	-------

Preliminary Approval:	Date:
-----------------------	-------

Rev	Date	Change	Revised by	Approved
B	10.04.14	Added preliminary approval	KJ	

10-04-14

DART AEROSPACE LTD		Work Order: 92946
Description: B139 TWO CENTRE CEILING PANEL		Part Number: D4634-1
Inspection Dwg: 4634	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST
THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than "				
Shape Definition				
Texture Retention				
Material imperfections such as bumps, cracks, voids, scratching				

Measured by:	Date:
--------------	-------

TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.66		1.659			DL-02	
3.87		3.873			DL-02	
12.00		12.00			TH-05	
24.00		24.00			TH-05	
39.75		39.75			TH-05	
2.07		2.07			DL-02	
5.55		5.55				
5.55		5.50			TH-05	
11.68		11.68			TH-05	
31.41		31.325			TH-05	
2.03		2.005			DL-02	

Measured by: BB	Date: 13/03/19
Audited by: O 13/03/19	Date: 13/03/19
Preliminary Approval:	Date:

Rev	Date	Change	Revised by	Approved
B	10.04.14	Added preliminary approval	KJ	

10.04.14